

RESPONSIVE CLAIM CONSTRUCTION BRIEF

TABLE OF CONTENTS

	Page
I. Introduction.....	1
II. U.S. Patent No. 6,792,277.....	1
A. Claim Term 12: “One or More Core Networks”	2
B. Claim Term 13: “Control Signalling”	4
C. Claim Terms 14, 15: “Carrying Out the Plurality of Control Signallings . . .” and “Transmit[ting] a Request for Maintaining the Connection. . .”	9
D. Claim Term 16: “Means for Carrying Out Control Signallings in a Telecommunications System Via an Access Network to One or More Core Networks”	11
III. U.S. Patent Nos. 7,383,022 and 7,599,664	11
A. Claim Terms 23a-d: “Modify[ing] the Default Forgetting Factor”	12
B. Claim Terms 24a-e: “Calculat[ing] [a/the] Default Forgetting Factor Based on a Parameter Received”	15
IV. U.S. Patent No. 6,978,143.....	15
A. All Disputed Claim Terms in the ‘143 Patent – “Control Unit” Is A General Purpose Processor	15
B. Claim Terms 17 and 19: “Means for Sending Using A Selected Channel...” and “Means for Comparing for Basis of Said Channel Selection”	16
C. Claim Term 19: “Means for Calculating”	18
V. U.S. Patent No. 6,788,959.....	19
A. Claim Term 9: “Dynamic Configurations”	19
B. Claim Term 10: “Means (56) for receiving . . . “	22
C. Claim Term 11: “Means (55), responsive to the error check of the broadcast control signal, for either reading any dynamic configuration . . . or waiting a until a predetermined time . . . “	23

VI.	U.S. Patent No. 6,674,860.....	23
A.	Claim Terms 4-8: Components of “Intelligent Module SIM”	23
B.	Claim Terms 4, 6-8: “Logical Block Embodiments”	24
C.	Claim Term 2: “Means for Decrypting ...” (Claim 9).....	25
D.	Claim Terms 1,3: “Means for Receiving ...”	25
E.	Claim Term 8: “Means for Calculating ...”	27
F.	Claim Terms 6a-b: “Receiving...decryption key[s]...related to a location update procedure”	27
VII.	U.S. Patent No. 7,804,850.....	27
A.	Claim Term 25: “Predetermined Period”	28
VIII.	Conclusion	30

TABLE OF AUTHORITIES

	Page(s)
FEDERAL CASES	
<i>Am. Med. Sys. v. Biolitec, Inc.</i> , 618 F.3d 1354 (Fed. Cir. 2010)	10
<i>Blackboard, Inc. v. Desire2Learn, Inc.</i> , 574 F.3d 1371 (Fed. Cir. 2009).....	26, 27
<i>Eon Corp IP Holdings, LLC v. Landis+Gyr Inc.</i> , 2012 U.S. Dist. LEXIS 165790 (E.D. Tex. Nov. 20, 2012)	32
<i>Ergo Licensing v. CareFusion 303, Inc.</i> , 673 F.3d 1361 (Fed. Cir. 2012)	17
<i>In re Katz Interactive Call Processing Patent Litigation</i> , 639 F.3d 1303 (Fed. Cir. 2011)	17
<i>Laitram Corp. v. Rexnord, Inc.</i> , 939 F.2d 1533 (Fed. Cir. 1991)	19
<i>Phillips v. AWH Corp.</i> , 415 F.3d 1303 (Fed. Cir. 2005)	4
<i>SciMed Life Sys., Inc. v. Advanced Cardiovascular Sys., Inc.</i> , 242 F.3d 1337 (Fed. Cir. 2001)	10
<i>Source Search Technologies, LLC v. LendingTree, LLC</i> , 588 F.3d 1063 (Fed. Cir. 2009)	10
<i>WMS Gaming, Inc. v. Int’l Game Tech.</i> , 184 F.3 1339 (Fed. Cir. 1999).....	1, 16, 19, 27
FEDERAL: STATUTES, RULES, REGULATIONS, CONSTITUTIONAL PROVISIONS	
35 U.S.C. § 112(6)	19

I. Introduction

Apple's constructions carefully apply the principles of claim construction set forth by the Federal Circuit, and are consistent with the plain language of the claims, the specifications, and the prosecution histories of the patents. In contrast, Core Wireless's constructions:

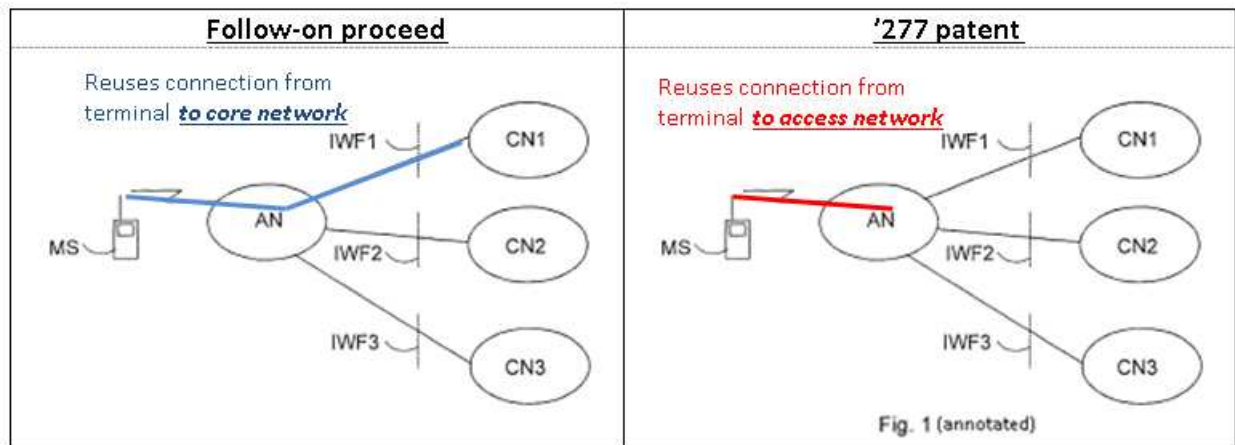
- Ignore the plain meaning of the claims and import improper limitations (*e.g.*, “one or more core networks,” ‘277 patent; “predetermined period,” ‘850 patent);
- Contradict the patent specifications (*e.g.*, “control signalling,” ‘277 patent; “dynamic configurations,” ‘959 patent);
- Ignore clear disclaimers made by the patentees (*e.g.*, “carry out the plurality of control signalling,” ‘277 patent; “transmit[ting] a request for maintaining the connection,” ‘277 patent);
- Change the scope of the claims to include alternate, unclaimed technology (*e.g.*, “modify[ing] the default forgetting factor,” ‘022 patent; claims 5, 18, 11, 24 ‘664 patent); or rejected technology (*e.g.*, “dynamic configurations,” ‘959 patent);
- Ignore the Federal Circuit's well-settled teaching in *WMS Gaming, Inc. v. Int'l Game Tech.*, 184 F.3d 1339, 1349 (Fed. Cir. 1999) that “[i]n a means-plus-function claim in which the disclosed structure is a computer . . . programmed to carry out an algorithm, the disclosed structure is not the general purpose computer, but rather the special purpose computer programmed to perform the disclosed algorithm.” (*e.g.*, “control unit,” ‘143 patent; “means for decrypting...,” claim 9, ‘860 patent; “means for carrying out control signalling in a telecommunications system...,” ‘277 patent).

Apple respectfully requests that the Court adopt Apple's constructions of the claim terms.

II. U.S. Patent No. 6,792,277

The ‘277 patent proposes a procedure for maintaining part of a connection between a mobile phone and at least one “core network” for successive “control signalling.” (‘277 patent, Abstract, 2:61-65.) As the patent recognizes, prior art telecommunications networks included a “follow on proceed” function that could, upon request, maintain the *entire* connection between the mobile phone and the core network (shown in blue below) for successive control messages. (*Id.*, 7:45-46; 7:50-54.) The inventors contended that this function was “not, however, suitable to be generally used for implementing several control signalling, least of all if the control signalling are directed to different core networks.” (*Id.*, 7:59-61.) The patent accordingly

proposes an alternative procedure that maintains the more limited connection between the mobile phone and the *access network* rather than the connection to the core network:



As the specification confirms:

***The idea underlying the invention** is that **the connection between the access network and the terminal is not released** between substantially successive control signalling between at least one core network and the terminal.¹ (*Id.*, 2:62-65.)*

A. Claim Term 12²: “One or More Core Networks”

Apple’s Proposed Construction	Core Wireless’s Proposed Construction
Plain meaning	In a telecommunication system with only one core network, the one core network is integrated to be responsible for several different services, such as circuit- and packet-switched connections.

The parties dispute whether this term has a plain meaning (Apple) or whether a new limitation should be imported into the claims so that, if there is only one core network, it must be responsible for “several different services” (Core Wireless).

There is no basis for reading such a limitation into the claims. The specification is

¹ Emphasis throughout this brief is added unless otherwise stated.

² Apple refers to the terms by the number indicated in Exhibit 1 to the parties’ Joint Claim Construction and Prehearing Statement. (Docket No. 108-1.)

consistent with the plain meaning of the term, and repeatedly states that the invention can operate on a *single* core network. (See, e.g. *id.*, 10:50-52 (“successive control signalling can also be carried out to the *same* core network.”); *id.*, 2:62-65 (“The idea underlying the invention is that the connection between the access network and the terminal is not released between substantially successive control signalling between *at least one* core network and the terminal.”).) It also explicitly confirms that a “core network” can be responsible for a *single* service. For example, it describes core networks that are responsible for only circuit-switched services or only packet-switched ones. (See, e.g. *id.*, 4:47-48 (“The core network CN1 is responsible for circuit-switched services.”); 4:61-62 (“The core network CN2 is responsible for providing packet-switched services.”).) This shows that the claimed core network need only provide a single service.

Core Wireless contends that the inventors used the term in a “special way,” acting as their “own lexicographers.” (P.Br. at 7.) But it points to no definitional language in the patent. Instead, it relies on two paragraphs stating only that the invention “*can be*” applied in systems with at least two core networks (P.Br. at 6 (quoting ‘277 patent, 3:66-67)), and “*can also be*” applied in systems where one core network runs several different networks services (P.Br. at 6 (quoting ‘277 patent, 4:11-14).) Core Wireless seeks to limit the claims to these two embodiments, while contending elsewhere that “it is well established that claim terms are not limited to their preferred embodiment.” (P.Br. at 25.)³ The patent makes clear that applications involving different “services” are *only exemplary*:

The control signalling can be carried out for *different services* or different network elements, *for example*.

(*Id.*, 3:63-65.) Indeed, the patent explicitly confirms that the invention can operate in *any system* where there is a need for successive control signalling:

The invention is suitable for use in *any telecommunication system*

³ Core Wireless inaptly argues that the claims “should be read to cover the preferred embodiment[s],” (P.Br. at 7). Both sides’ constructions *cover* the embodiments; Core Wireless seeks to *limit* the claims to them.

wherein a need exists to carry out a plurality of substantially successive control signalings between a terminal and a telecommunication network.

(*Id.*, 3:59-64.)⁴ “Any system” would include those with a single-service core network.

Core Wireless also argues that the requirement of multiple “different services” should be read into the claim to give effect to the alleged point of novelty and to preserve the validity of the claims. (P.Br. at 7.) This principle has no application here, where the term “core network” is not in any way ambiguous. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1327–28 (Fed. Cir. 2005). Moreover, the presence of multiple “services” was **not** the alleged point of novelty. As the specification makes clear, the inventors claimed that their invention was maintaining a connection to the **access network** rather than a connection to the **core network**. (*Id.*, 2:62-65; see Section C *infra.*) In fact, the inventors acknowledged that multiple “services” also existed in prior-art GSM networks. (*Id.*, 1:39-40 (“[A] GSM system can transmit information about available **services** to the mobile station....”).)

B. Claim Term 13: “Control Signalling”

Apple’s Proposed Construction	Core Wireless’s Proposed Construction
The control messages over a given signalling connection between a terminal and a core network	Plain and ordinary meaning To the extent a construction is necessary: Message or messages used for control

The parties agree that a “control signalling” is a set of “control messages” (Apple) or “messages used for control” (Core Wireless). But Apple’s construction explains how to identify the relevant set of messages—confirming that control messages over the **same** signaling

⁴ The disclosed embodiments are systems with both circuit-switched and packet-switched “services,” but that is not because this is an element of the invention. Rather, it is because “the primary embodiments of the invention [are] described in a mobile communication system according to the UMTS principles,” (*id.*, 3:56-58), and the exemplary UMTS system happens to have both circuit- and packet-switched services. (See, e.g., *id.*, 2:23-25 (“**In the UMTS system**, one mobile station can have several simultaneous connections . . . such as a circuit- and packet-switched connection[s]...”).) The specification is clear that these UMTS embodiments are disclosed “without any intention to restrict the invention to the UMTS system.” (*Id.*, 3:58-59.)

connection are part of the same control signalling⁵—which is necessary for the jury to understand and apply the claims. Core Wireless’s construction, in contrast, provides no such guidance. Instead, it would permit any single message or any set of messages to qualify as a “control signaling”—an amorphous construction that would be impossible for a jury to apply.

Apple’s construction is consistent not only with the ordinary meaning of the term, but also with the claim language and the specification. Significantly, the ‘277 claims require **counting** the control signalings associated with a set of communications between the terminal and the core network. Claim 1, for example, requires carrying out a “**plurality** of control signalings.” Similarly, claim 6 requires transmitting information about “the **number** of necessary control signalings,” “**count[ing]** the number of control signalings,” and maintaining the connection between the terminal and the access network “until the **number** of control signalings announced by the terminal has been carried out.”⁶ The jury will need to perform this counting, and only Apple’s construction will enable it.

The patent is clear about how this counting of “control signalings” is accomplished. The number of control signalings is tied to the number of signalling connections:

[T]he invention can be applied in such a manner that the mobile station transmits information about **how many different control signalings** are to be carried out during the same radio connection. In such a case, the mobile

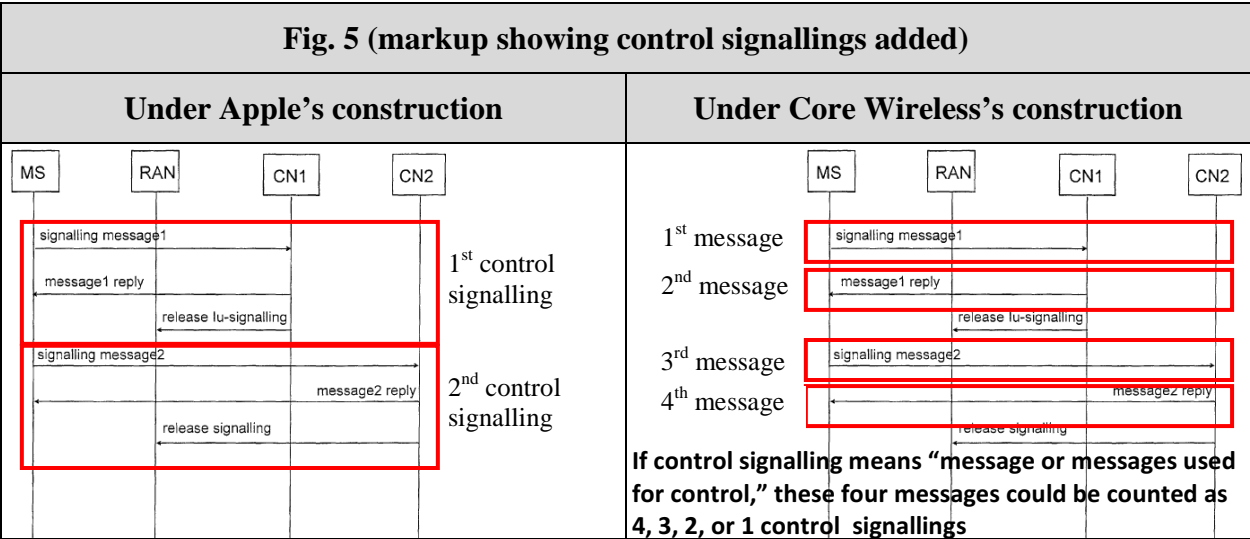
⁵ To communicate with the core network (“CN”), the terminal (“MS”) must establish three connections. First, there is a **logical** “signalling connection” between the MS and the relevant CN. (*Id.*, 5:32-33.) Further, because messages between the MS and a CN physically have to go via an access network (“AN”), the signalling connection is **implemented** using two subsidiary connections: one from the MS to the AN; the other from the AN to the CN. (*Id.*, 5:8-13.)

⁶ The specification explains that the system may on occasion have to maintain a running count of control signalings as they occur. (*Id.*, 10:43-45.) The system accomplishes this by detecting where each control signalling ends and the next begins. (*Id.*, 10:37-43.) As the patent explains: “The mobile station transmits information about how many different control signalings are to be carried out during the same radio connection,” (*id.*, 10:31-33); the system “counts how many control signalings have been carried out after the radio connection was activated” (*id.*, 10:43-45); and “[w]hen the number of control signalings announced by the mobile station is carried out, the radio connection is released” (*id.*, 10:45-47).

station can, preferably in connection with the request for maintaining the radio connection, transmit information about *how many signalling connections* are to be used.

(*Id.*, 10:30-36.) The system accordingly detects that a “control signalling” has ended when the signalling connection associated with it is released: “The [system] can detect that each control signalling has taken place *when it receives the request for releasing the signalling connection* from the core network.” (*Id.*, 10:40-43.)⁷ The specification thus confirms that a “control signalling” is associated with a signalling connection; that a control signalling continues until the associated signalling connection is released; and that control messages over the *same* signalling connection are part of the *same* control signalling.

Core Wireless’s construction flatly contradicts the specification, and would make it impossible to count control signalings as the claims require. This can be seen, for example, with respect to Fig. 5 (reproduced below), which shows a stream of control messages between the mobile station (MS) and two core networks (CN1 and CN2).



⁷ The signalling connection is released in response to the core network’s request to release the signalling connection. (*Id.*, 9:13-17 (“The RNC may transmit an acknowledgement of the release the Iu connection to the [core network] (signalling release complete). The [core network] can thus be sure that the connection is released when the signalling is over.”).) “The *radio* connection [i.e. MS-to-AN connection] is, however, reserved for the mobile station for signalling even though no active Iu connections [are] available.” (*Id.*, 9:17-19.)

Apple's construction is consistent with Fig. 5 and would result in two control signalling. The first control signalling terminates with the "release Iu-signalling" message, which releases the signalling connection and thus ends the first control signalling. The next message—"signalling message2"—marks the start of the *second* control signalling. The specification confirms that Apple's reading is correct: "The MS carries out a *second* control signalling ... using the existing radio connection (signalling message2)." (*Id.*, 11:51-53.)⁸

Core Wireless's construction, in contrast, is inconsistent with the specification and would make it impossible to count control signalings—in Fig. 5 or elsewhere. As construed by Core Wireless, each individual "message ... used for control" could count as a separate control signalling. Read this way, Fig. 5 would show four control signalings (shown in red above), and "signalling message 2" would mark the beginning of the *third* control signalling—not the second. But under Core Wireless's construction any set of "messages ... used for control" *also* could count as a control signalling. Read this way, *all* the messages between the terminal and the core network in Fig. 5 also could be part of a *single* control signalling—so that Figure 5 would show only *one* control signalling—or any combination in between. In short, Apple's construction results in the right number of control signalings—two—whereas Core Wireless's provides no consistent count of control signalings at all. Such indeterminacy is inconsistent with the clear guidance of the claim language and the specification, which provides a concrete approach for counting "control signalings"—as recited in Apple's construction.

Core Wireless contends that Apple's construction is "inconsistent" with the claim

⁸ Core Wireless's construction is also inconsistent with other portions of the '277 specification. For example, the patent states that "according to the known UMTS technology, the radio connection cannot be maintained between successive *control signalings*." (*Id.*, 5:29-31) If each *control message* could be a separate control signalling—as Core Wireless's construction allows—then this statement would be false. There is no dispute that in "the known UMTS technology," the radio connection would be maintained between multiple control messages. For example, the patent explains that in the prior art, a "location update request" control message (*id.*, Fig. 4, 8:20-22), a responsive "location update accept" control message (*id.*, Fig. 4, 8:45-46), and also various control messages to perform "security functions, such as authentication" (*id.*, 8:33-35) would all be performed before the radio connection was released (*Id.*, 8:51-53).

language “control signalling between the terminal and the access network.” (P.Br. at 8.)⁹ But Core Wireless omits the key language that precedes these words; the relevant limitation refers to a **connection** between the terminal and the access network, not a control signaling between them:

carrying out the plurality of control signalings ***between the terminal and at least one core network*** substantially successively without releasing a ***connection established for control signalling between the terminal and the access network***

(*Id.*, 12:25-29.) Thus, the “control signalings” themselves are carried out between the terminal and a core network, just as Apple’s construction says. They are made over a signalling connection between the terminal and the core network that is built upon two subsidiary connections—the first between the terminal and the access network, and the second between the access network and the core network. (*See supra*, n. 5.) The claim specifies that—of these “connection[s] established for control signaling”—it is the connection ***between the terminal and the access network*** that must be maintained through successive between control signalings.

This is exactly the alleged invention:

The idea underlying the invention is that the connection between the access network and the terminal is not released between substantially successive control signalings between at least one core network and the terminal.

(*Id.*, 2:62-65.) This is also exactly what happens in each embodiment. (*E.g., id.*, Figs. 4, 5.)¹⁰

⁹ Core Wireless also suggests that there is redundancy because the words “between a terminal and a core network” appear both in the construction and separately in the claims (*e.g.* claim 1). (P.Br. at 8.) There is no redundancy: the words describe different things in the two places. The phrase in the claim describes the two entities between which the control signalling occurs—“between a terminal a core network”; the one in Apple’s construction specifies the endpoints of the signalling **connection** that controls when each control signalling **ends**.

¹⁰ Core Wireless’s so-called “plain meaning” construction is also flawed. The phrase “control signalling” (especially when it has to be countable, as here) has no standard meaning in the art; Core Wireless has cited no evidence that it does. Moreover, as discussed above, Core Wireless’s own idea of the term’s “plain meaning” contradicts the specification.

C. Claim Terms 14, 15: “Carrying Out the Plurality of Control Signallings . . .” and “Transmit[ting] a Request for Maintaining the Connection. . .”

Apple’s Proposed Construction	Core Wireless’s Proposed Construction
The steps are performed without using the “follow on proceed” function	Plain and ordinary meaning

Another significant dispute for the ‘277 patent concerns the inventors’ disclaimer of the prior art “follow on proceed” function. Apple asks the Court to give effect to this clear and unambiguous disclaimer. Core Wireless asks the Court to ignore it.

As the specification recognizes, at the time of the invention, GSM networks had in place a function called “follow on proceed” that mobile phones could use to request that the mobile switching center (part of the core network)¹¹ maintain a connection for subsequent signalling. A mobile phone could make such a request by transmitting a “follow on proceed” bit. The ‘277 inventors were *explicit* that this prior art function was *not* their invention:

The “follow on proceed” function is *not, however, suitable* to be generally used for implementing several control signallings, least of all if the control signallings are directed to different core networks.

(*Id.*, 7:59-62.) The patent accordingly proposes alternative procedures that maintain the connection with the *access network* rather than with the core network. (*Id.*, 2:62-65.) The inventors state that this can be accomplished, for example, by transmitting a “maintain RRC” bit to the access network (as opposed to a “follow on proceed” bit to the core network). (*Id.*, 7:62-8:8.) This “maintain RRC” bit “maintains the radio connection” to the access network “after the Iu connection directed to the core network has been released.” (*Id.*, 8:5-8.)

As Core Wireless concedes, this portion of the specification “says that the [follow-on proceed] function as it was used in the prior art *is not the invention*.” (P.Br. at 9.) A patent that “defines [the] invention in a way that excludes” some subject matter, *SciMed Life Sys., Inc. v.*

¹¹ As the specification earlier confirms, the “mobile switching center” is part of the core network, and the “radio network controller” is part of the access network. (*Id.*, 4:48-49; 4:33-35; Fig. 2.)

Advanced Cardiovascular Sys., Inc., 242 F.3d 1337, 1343 (Fed. Cir. 2001), thereby creates “a disclaimer of [that] subject matter.” *Id.* at 1344.¹² The ‘277 disclaimer is particularly significant with regard to Terms 14 and 15, which are explicit that the control signalings are carried out without releasing a “connection established for control signalling between the terminal and **access network**.” Consistent with the disclaimer, the claims focus on maintaining the connection to the **access network** rather than maintaining the connection to the core network.

Core Wireless also contends that, even if there is a disclaimer, it is limited to “the function as it was used in the prior art.” (P.Br. at 9-10.) But a disclaimer of subject matter in the prior art applies to the subject matter generally, not just “as it was used in the prior art.” In *SciMed*, for example, where the patent excluded from the invention “the dual, or side-by-side, lumen arrangement [in a catheter],” 242 F.3d at 1343, this was found to disclaim **all** dual-lumen catheters, *id.* at 1340, not just “as it was used in the prior art.” (*Id.*) In this case, as in *SciMed*, the “follow on proceed” is disclaimed generally.¹³

Moreover, the patent does not distinguish follow-on proceed, as Core Wireless contends, merely on the grounds that it did not operate in a two-core-network environment. (P.Br. at 10.) Rather, the patent distinguishes follow-on proceed because it allegedly “is not ... suitable to be generally used for implementing **several control signalings**, least of all [but not only] if the

¹² Plaintiff cites two cases—*Am. Med. Sys. v. Biolitec, Inc.*, 618 F.3d 1354 (Fed. Cir. 2010) and *Ventana Med. Sys. v. Biogenex Labs., Inc.*, 473 F.3d 1173 (Fed. Cir. 2006)—where no disclaimer was found. (P.Br. at 10, n. 18). Neither applies. The patents in those cases did not define “what is not the invention,” as here and in *SciMed*. Rather, in *Biolitec*, the patent merely stated that one class of embodiments was “preferable,” 618 F.3d at 1362, and in *Ventana*, the proposed disclaimer theory would have excluded even the patent’s own preferred embodiment. 473 F.3d at 1180.

¹³ Even if only follow-on proceed “as it was used in the prior art” is disclaimed, (P.Br. at 9-10), the disclaimer must still at least extend to accusations against contemporary products that use essentially the same function. If not, then the claims would be construed differently for invalidity (to exclude the follow-on proceed function) than for infringement (to include essentially the same function), which is impermissible. *Source Search Technologies, LLC v. LendingTree, LLC*, 588 F.3d 1063, 1075 (Fed. Cir. 2009).

control signalings are directed to different core networks.” (*Id.*, 7:59-62.)¹⁴

D. Claim Term 16: “Means for Carrying Out Control Signalings in a Telecommunications System Via an Access Network to One or More Core Networks”

The parties agree that this limitation requires an algorithm—or in Core Wireless’s terms, a set of “steps” (P.Br. at 12)—but dispute what that algorithm is. The specification expressly ties the function of “carrying out control signalings ...” to the steps in Figures 4 and 5. (*Id.*, 3:50-55 (describing figures as “showing ... control signalling according to a preferred embodiment of the invention.”).) While these figures include some signals from devices other than the terminal, as Core Wireless notes, these are not *part* of the algorithm, but rather the *conditions* that cause the terminal to carry out its steps.¹⁵ Core Wireless’s proposal—a jumble of cites with no coherent order—is inconsistent with the specification, and would serve only to confuse the jury.¹⁶

III. U.S. Patent Nos. 7,383,022 and 7,599,664

The ‘022 and ‘664 patents describe procedures for adapting a filter mechanism to varying channel conditions experienced by a particular cell phone, *e.g.*, as the user travels through different network areas. The patents recite filtering measurement data to “incorporate the speed of the [mobile equipment or “ME,” *e.g.*, a cell phone] into the filter calculations” and thereafter altering a “forgetting factor” of the filter using parameters indicating signal quality. (‘022 patent,

¹⁴ Core Wireless’s argument is also factually incorrect. “[F]ollow-on proceed [was] standardized in the GSM system,” (*id.*, 7:45-46), which *did* include multiple core networks. (Ex. T, Mueller Decl. [3GPP TS 04.08 V.6.0.0] (prior-art GSM standard showing a circuit-switched core network (*e.g.* Section 5) and another packet-switched one (*e.g.* Section 6)).

¹⁵ For example, in Figure 4, the terminal sends an “RRC setup request” message, then *waits* for an “RRC connection setup” response before sending an “LU request” message. This “wait” step is necessary: the patent does not disclose sending an “LU request” before receiving the response message, and indeed it cannot do so, because the LU request cannot be sent until the RRC connection is established. (*Id.*, 7:12-13.)

¹⁶ Core Wireless also seeks to include an “antenna” and other structures in the construction. (P.Br. at 11.) For simplicity, Apple does not contest the inclusion of the antenna alone. The other structures are not in the patent.

3:65-4:16.) The “forgetting factor” is used to discount the importance of (“forget”) certain older data relating to channel conditions. The prior art 3GPP standard allowed each base station to broadcast to all phones within its respective cell a “cell-based” value to use in determining a forgetting factor. According to the ‘022 and ‘664 patents, this prior art approach ignored individualized conditions applicable to each cell phone such as the speed at which a particular cell phone is moving, and therefore was less effective for analyzing the predictive value of older measurements to determine present signal quality. (*Id.*, 2:32-43.) The patents accordingly propose two distinct methods of altering the forgetting factor: (1) **modifying** a default forgetting factor signaled by the base station with received “ME-specific” data (*e.g.*, the speed of the ME as measured by the networks) (*id.*, 6:49-54), or (2) **replacing** the cell-based forgetting factor with a new factor generated entirely from received ME-specific data. (*Id.*, 6:59-62).

A. Claim Terms 23a-d: “Modify[ing] the Default [Forgetting] Factor”

Apple’s Proposed Construction	Core Wireless’s Proposed Construction
“adjust[ing] the default [forgetting] factor upwards or downwards by an amount determined by the application of a mathematical computation” ¹⁷	Plain meaning/no construction; or, in the alternative, “changing the default forgetting factor”

The parties dispute whether “modify[ing] the default [forgetting] factor” should be construed consistent with its plain meaning and its use in the claims and specification of the ‘022 and ‘664 patents (Apple), or whether this term should be expanded to include the alternative unclaimed embodiment of replacing the default forgetting factor (Core Wireless).

The specification explicitly describes *two separate, alternate approaches to the invention*—one that involves **modifying** the default factor and another approach that involves **replacing** the default factor. (*Id.*, 3:25-29; 6:47-7:3; 7:15-22.) For example, the patents state:

¹⁷ Apple originally proposed a construction that also included the phrase “based on the received indication of signal quality.” Apple has concluded that this phrase is unnecessary in light of the other claim language.

The teachings of this invention can be used in one of at least *two different* ways. *First*, the received value of ME_SPEED can be used by the ME 10 to *correct or refine* the value of “a” that is calculated using the broadcast, generic parameter. *Alternatively*, the broadcast parameter used to calculate the value of “a” can simply be *discarded*, and the value of ME_SPEED used in computing a current value of the forgetting factor “a”. (*Id.*, 7:15-22.)

The “modification” approach involves “weighting or adjusting the default value of ‘a’ upwards or downwards as a function of the value of ME_SPEED.” (*Id.*, 6:52-54.) Alternatively, in the “replacement” approach, the new forgetting factor is “computed as a function of ME_SPEED” and replaces the default factor. (*Id.*, 6:59-62.) The specification repeatedly distinguishes between modifying/adjusting the default forgetting factor and replacing it, never once identifying them as anything other than alternatives. (*Id.*, 3:25-29 (received ME speed is used to “*one of modify* a forgetting factor”, *or* to “*replace the received forgetting factor.*”); 6:47-7:3, 7:15-22.)

The prosecution history confirms that “modification” and “replacement” are two alternative approaches to the purported invention. As filed, claims 13 and 14 of the abandoned ‘952 application (the parent application to the ‘022 patent, which is in turn the parent of the ‘664 patent) read:

13. A method as in claim 1, wherein the determined parameter is used to *modify* a forgetting factor that is received in a broadcast message from the wireless network, the forgetting factor influencing a length of a filter that operates on link quality measurement data.

14. A method as in claim 1, wherein the determined parameter is used to *replace* a forgetting factor that is received in a broadcast message from the wireless network, the forgetting factor influencing a length of a filter that operates on link quality measurement data.

(*See* Ex. A, Mueller Decl.18 [Patent Application No. 09/457,952] at cls. 13, 14.) The only difference between these two claims is the use of “modify” in claim 13, and “replace” in claim 14, confirming that the inventors intended these as alternative techniques. *Phillips*, 415 F.3d at 1314 (“Differences among claims can also be a useful guide in understanding the meaning of

¹⁸ Exhibits cited herein refer to the Declaration of Joseph J. Mueller in Support of Apple Inc.’s Responsive Claim Construction Brief (“Mueller Decl.”).

particular claim terms.”). The distinct meanings of “modify” and “replace” apply equally to the “child” applications that resulted in the ‘022 and ‘664 patents. *See, e.g., Omega Eng’g, Inc. v. Raytek Corp.*, 334 F.3d 1314, 1334 (Fed. Cir. 2003) (“[W]e presume, unless otherwise compelled, that the same claim term in the same patent or related patents carries the same construed meaning.”); *Microsoft Corp. v. Multi-Tech Systems, Inc.*, 357 F.3d 1340, 1349 (Fed. Cir. 2004) (“[W]e have held that the prosecution history of one patent is relevant to an understanding of the scope of a common term in a second patent stemming from the same parent application.”).

Core Wireless’s assertion that Apple’s construction improperly limits the invention to the preferred embodiment is incorrect. (P.Br. at 13.) Where, as here, plain language of the claims is explicitly directed to particular features of a preferred embodiment, the claims must be construed accordingly, even if certain embodiments are not covered. *See ACCO Brands, Inc. v. Micro Sec. Devices, Inc.*, 346 F. 3d 1075, 1079 (Fed. Cir. 2003) (construing claims to exclude certain preferred embodiments, and stating, “The presence in the ‘989 specification of embodiments carried over from the parent application, but claimed in other patents, does not serve to broaden the scope of the ‘989 claims . . .”). This logic applies with particular force where the patentee claimed the excluded embodiments in other patents, *see id.*, and here, for example, certain independent claims in the ‘664 patent cover the “replacing” embodiment. But, the ‘022 claims cannot be stretched to cover that, because “modify” means something different than “replace.”

Core Wireless also contends that Apple’s construction will confuse the jury by muddying a common word—“modifying”—or by using too many words to define the term. (P.Br. at 13.) But, the term “modify” means to “change in form or character” or “to make *partial* changes in; to change (an object) in respect to some of its qualities; to *alter or vary* without radical transformation.” (Ex. D, Mueller Decl. [Amer. Heritage Dictionary, Oxford English Dictionary] at APLCW-A0000013000, 13007.) Core Wireless’s dictionary definitions are in accord. Ex. 17, Hadzibegovic Decl., at CORE_A-018977 (“to change or alter, esp. to change *slightly* or

partially.’)) This is consistent with Apple’s construction, which proposes “*adjusting* the default forgetting factor.” (P.Br. at 14.) The remaining text of Apple’s construction merely provides guidance to the jury on what it means to modify the default forgetting factor—by adjusting it upwards or downwards by an amount determined by the application of a mathematical computation. Core Wireless’s construction provides no such guidance to the jury, and if adopted, would improperly expand the scope of the claim to unclaimed embodiments.

B. Claim Terms 24a-e: “Calculat[ing] [a/the] Default Forgetting Factor”

Because Core Wireless believes that “calculating” has an “ordinary meaning” that is interchangeable with “computing” (P.Br. at 14), the parties appear to agree on the plain meaning of this term. Should Core Wireless later contend that that “calculating” has a different meaning, Apple reserves its right to address any new construction proposed by Core Wireless.

IV. U.S. Patent No. 6,978,143

The ‘143 patent relates to a method for allowing the cell phone, rather than the base station, to determine whether to use a dedicated channel or a common channel for transmitting a packet. (‘143 patent, 3:40-4:34.) Using the method claimed in the ‘143 patent, the base station sends a threshold value of a channel selection parameter to the mobile station. (*Id.*, 6:1-2.) The cell phone compares that threshold value to a current value of that parameter, and then uses the results of that comparison to determine whether to send data on the common channel or to request a dedicated channel for transmission of data. (*Id.*, 6:25-36.)

A. All Disputed Claim Terms in the ‘143 Patent: “Control Unit” Is A General Purpose Processor

The central dispute is whether the disclosed processor (*i.e.* control unit 803) is a general purpose processor programmed with the algorithms disclosed in the specification (Apple), or whether it is a processor “specially designed for use in a cell phone” (Core Wireless).

Apple’s construction is consistent with *WMS Gaming, Inc. v. Int’l Game Tech.*, 184 F.3d 1339 (Fed. Cir. 1999), as well as the specification, claims and prosecution history of the ‘143

patent. As *WMS Gaming* confirms, “[t]he structure of a microprocessor programmed to carry out an algorithm is limited by the disclosed algorithm.” *Id.* at 1348. The ‘143 patent states that “... the control unit¹⁹ that controls the other blocks executes the block control functions *according to special software*, thus realizing the *above-described block functions* according to the invention.” (‘143 patent, 7:22-28.) Identification of the specific algorithms used is thus required and the claims should be limited to the disclosed algorithms.

Core Wireless, relying on *In re Katz Interactive Call Processing Patent Litigation*, 639 F.3d 1303 (Fed. Cir. 2011), asserts that even if the processor is a general purpose processor, the patent does not recite a specific function that would need to be implemented by a computer programmed for a special purpose and thus there is no need to identify specific algorithms. (P.Br. at 20.) *Katz*’s holding, however, referred to claims that only recited functions of “processing,” “receiving,” or “storing.” *Katz*, 639 F.3d at 1316. The holding in *Katz* applies “only in the rare circumstances where any general-purpose computer *without any special programming* can perform the function.” *Ergo Licensing v. CareFusion 303, Inc.*, 673 F.3d 1361, 1364-65 (Fed. Cir. 2012) (discussing *Katz*’s application to functions implemented by a “control means”). In contrast, when “special programming is required for a general-purpose computer to perform the corresponding claimed function, then the default rule requiring disclosure of an algorithm applies.” *Id.* at 1365. Here, the control unit requires “special software” in order to implement the functionality. (‘143 patent, 7:22-28.) *Katz* is inapposite and limitation of the structure to the disclosed algorithms is appropriate.

B. Claim Terms 17 and 19: “Means for Sending Using . . . A Selected Channel...” and “Means for Comparing for Basis of Said Channel Selection”

The parties dispute whether the corresponding structures for these terms are part of the mobile station disclosed in the patent (Apple), or whether the terms should be read to cover any

¹⁹ One of ordinary skill in the art would understand “control unit” to mean a microcontroller or similar general purpose processor, particularly in light of the discussion of programming via special software and the common usage of such microcontrollers in mobile phones.

structure where a comparison made in the mobile station is subsequently used for a selection, including a selection structure within a base station (Core Wireless).

The ‘143 patent repeatedly confirms that channel selection is *only* performed by the mobile station. (*See, e.g.*, ‘143 patent, 4:1-35 (outlining parameters to be sent from system to mobile in order to enable selection), 6:21-36 (describing selection based on amount of data to be transferred), 7:17-20 (describing the control unit as the structure performing selection).) Nowhere in the patent is there any disclosure of channel selection by the base station. Core Wireless does not point to any. Indeed, the entire purpose of the claimed invention is to avoid the delay and additional traffic inherent in back and forth communications with the base station. (*Id.*, 3:41-52.) The disclosed structure in the mobile and the appropriate structures for the “comparing ... for basis of said channel selection” and “sending ... using a selected channel” are exclusively in the mobile device, and these claim limitations should be construed accordingly.

The prosecution history similarly confirms that only the mobile station performs channel selection. For example, the applicants explicitly confirmed that it is the mobile phone—not the base station—that performs channel selection, stating that “at the mobile station ... a channel selection decision is made.” (Ex. C, Mueller Decl. [Appeal Brief filed July 24, 2003] at 3), and distinguished the prior art based on its failure to teach “sen[d] real-time parameters from the network to a mobile station to be exploited by the mobile station in channel type selection/re-selection.” (Ex. E, Mueller Decl. [Reply Brief, filed Dec. 8, 2003] at 2.) Similarly, in describing the invention of the ‘143 patent, the applicants stated that “Person A [mobile] receives from Person B [base] threshold type information ... on the basis of which **A may conduct** a general selection” between dedicated and common channels. (*Id.* at 4.)

Core Wireless wrongly asserts that Apple’s construction violates the doctrine of claim differentiation because the sole difference between claims 17 and 18 is where the selection is performed. But under Apple’s construction, claim 17 and 18 still retain different scope. Claim 17 requires the mobile device to perform the channel selection; claim 18 recites a *particular*

means for making this selection. Claim 17 could cover other means for making that selection.

Core Wireless makes the same argument rejected in *Laitram Corp. v. Rexnord, Inc.*, 939 F.2d 1533, 1538 (Fed. Cir. 1991). Laitram argued that reading a structural limitation into an independent claim is impermissible when a dependent claim requires that structural limitation. *Id.* The Federal Circuit rejected that argument, stating that claim differentiation cannot override the requirements of 35 U.S.C. § 112(6) by expanding a claim beyond the disclosed structures. *Id.* All disclosed structures in the ‘143 patent require selection within the mobile station; thus, Section § 112(6) requires that the “selected channel” and “for basis of said channel selection” terms be limited to channels selected within the mobile station and to providing the comparison results to a function within the mobile station for basis of said channel selection.

C. Claim Term 19: “Means for Calculating”

The core dispute with regard to claim 19 is whether the corresponding structure should be limited to the disclosed structures and algorithms (Apple) or not (Core Wireless). The parties also dispute whether, consistent with its plain language, the claim requires that two comparisons be made (Apple) or whether a single comparison suffices (Core Wireless).

Although Apple and Core Wireless no longer dispute that “calculating” has an ordinary meaning that is interchangeable with “computing” (P.Br. at 14; Section III.B above), the “means for calculating” limitation of claim 19 must be limited to the disclosed algorithms identified in Apple’s proposed construction, as explained in Section IV.A above.

Core Wireless’s proposed construction also ignores the differences between claims 17 and 19. Claim 19 depends from claim 17 and incorporates all of its limitations. (‘143 patent, 10:1-10). Claim 19 thus requires two separate comparisons; one comparison of the threshold value to the current value of the channel selection parameter (limitations in claim 17), and another comparison of the calculated value of the channel selection parameter to a current value of the channel selection parameter (limitations in claim 19). (*Id.*) Core Wireless improperly reads claim 17 and claim 19 to refer to the same comparison, despite the inclusion of two

separate comparisons in claim 19 by way of its dependence on claim 17.

V. U.S. Patent No. 6,788,959

The ‘959 patent describes a proposal for conveying “preconfiguration parameters” to a mobile phone in connection with being handed over from one network to another (e.g., from a GSM to a UTRAN network). (‘959 patent, 1:21-31; 3:34-40.) These preconfiguration parameters permit the mobile phone to communicate with the new network. (*Id.*, 1:36-38.) While some preconfiguration parameters are “static” and can be hard-coded into mobile phones (*id.*, 1:31-42), others are “dynamic” and, according to the patent, “**must** be provided to the mobile station . . . at or near the time of handover.” (*Id.*, 1:42-57.)

The patent proposes particular procedures that a mobile phone can use to obtain dynamic configurations from the target network at or near the time of handover. These procedures were purportedly intended “to make a suitably fast handover” (*id.*, 1:26), to “quickly and reliably” transfer dynamic configurations when the mobile station is “being handed over” (*id.*, 3:34-39), and to achieve benefits such as power savings by having the mobile phone search for dynamic configurations only when signal levels meet the criteria for handover (*id.*, 5:28-38). The ‘959 proposal was ultimately **rejected** by the relevant standards body (ETSI).²⁰

A. Claim Term 9: “Dynamic Configurations”

Apple’s Proposed Construction	Core Wireless’s Proposed Construction
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²⁰ The ‘959 specification describes the claimed invention as a potential alternative to a proposal by Vodafone for the 3GPP standard. (‘959 patent, 3:21-40, 4:58-5:23). As acknowledged in the provisional application to which the ‘959 patent claims priority, the proposal set out in the ‘959 patent “**would have to be written into the standard.**” (Ex. P, Mueller Decl. [Provisional Application No. 60/244,356] at 12 (“the restrictions for the dynamic reconfiguration [sic] against hardcoded ones would have to be written in the standard.”)). The ‘959 inventors, through their employer Nokia, attempted to write these “restrictions” into the standard through a proposal Nokia submitted to RAN Working Group 2 on November 1, 2000. (See Ex. Q, Mueller Decl. [24A000014, “Pre-configurations”] at APLCW0000103917-103918.) However, Nokia’s proposal was not adopted by the working group. (Ex. R, Mueller Decl. [24A000018, “Draft Report TSG-RAN WG2-WG4 joint RRM meeting”] at APLCW0000103925 (noting that the RAN working groups “decided that it was not necessary to handle” Nokia’s proposal).)

Configurations provided at or near the time of handover.	Predefined configurations communicated to the mobile station on System Information Block (SIB) type 16.
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The primary dispute between the parties is whether “dynamic configurations” should be construed consistent with its plain meaning and its use in the specification (Apple), or whether it should be construed to cover any predefined configurations communicated on “SIB16” including configurations that are “static” rather than “dynamic” (Core Wireless).

The ‘959 specification explicitly confirms that a dynamic configuration—consistent with its plain meaning—*must* be provided to the mobile station “dynamically, i.e., at or near the time of handover”:

Unlike static preconfigurations, the sets of preconfiguration parameters making up a dynamic configuration . . . must be provided to the mobile station dynamically, i.e., at or near the time of handover of the mobile station from GSM to UTRAN.

(‘959 patent, 1:52-57); Ex. F, Mueller Decl. [Oxford Eng. Dict.] at, 6 (“dynamic”: “[o]f or pertaining to force producing motion; often opposed to static”); Ex. G, Mueller Decl. [Amer. Heritage Dict.] at 574 (“dynamic”: “[c]haracterized by continuous change, activity, or progress”).)

Apple’s proposal is consistent not only with the plain meaning of the term and its use in the specification, but also with the stated purpose of the alleged invention—ensuring “suitably fast handover” by “quickly and reliably communicating to a mobile station in *being handed over* from a cell operating under GSM to a cell operating under [UTRAN] any dynamic configuration information needed by the mobile station” (‘959 patent, 1:26, 3:34-39.)

Core Wireless’s proposal, in contrast, would effectively read “dynamic” out of the claims, and would cover uses that are clearly static and that are not related to handover at all.²¹ In particular, Core Wireless urges the Court to construe the term to cover a portion of the 3GPP

²¹ Core Wireless’s proposed construction would also defeat the patent’s goal of power savings, (*see* ‘959 patent, 5:28-38), by letting the mobile station look for preconfigurations at other times.

standard that the ‘959 inventors attempted—unsuccessfully—to change. It bases this argument on what is clearly a misinterpretation of a single sentence in the specification: “System Information Block (SIB) type 16 defines dynamic configurations, which are referred to as predefined configurations in section 13.7 of TS25.331.” (*Id.*, 1:67-2:1).²² This statement is not “lexicography,” as Core Wireless suggests. (P.Br. at 22.) Instead, read properly in context, the sentence merely captures the applicants’ proposed use of SIB16, confirming that SIB16 defines configurations that *can* be used as dynamic configurations, assuming of course that they are provided “*dynamically*, i.e., at or near the time of handover.” (*Id.*, 1:56-57.) This is clear from the cited portion of the standard itself—TS25.331, v. 3.7.0, § 13.7—which never refers to these configurations as “dynamic” and never even mentions SIB16. Instead, § 13.7 merely explains the nature of the parameters and defines *a long list of static parameters*. (Ex. H, Mueller Decl. [3GPP TS 25.331 v. 3.7.0] at 686-98.) Only the ‘959 patent refers to SIB16 as conveying “dynamic” configurations, and it does so not only by defining what information should be included (*see, e.g.*, 2: 1-3) but equally critically, by demanding that the configurations “*must* be provided. . . dynamically, i.e., at or near the time of handover” (*Id.*, 1:55-57.)

The ‘959 specification goes on to describe the applicants’ particular proposals for conveying configurations dynamically. Significantly, however, the procedures proposed in the ‘959 patent were not adopted by the standards body.²³ The current version of the standard accordingly does *not* use SIB 16 as contemplated by the ‘959 specification, and does not require SIB 16 parameters to be conveyed dynamically. In fact, industry textbooks, including a textbook

²² Core Wireless contends that this statement “provides a clear definition” for “dynamic configurations.” (P.Br. at 22). As a matter of basic grammar, however, this sentence says nothing about how the inventors defined the term; rather, it simply represents the inventors’ opinion regarding how “System Information Block (SIB) type 16”—a term that appears nowhere in the claims—should be characterized. To the extent the inventors provided any definition of “dynamic configurations,” they defined the term, consistent with Apple’s construction, as configurations that “*must* be provided “*at or near the time of handover*.” (*Id.*, 1:52-57.)

²³ *See supra* note 20.

authored by one of the named inventors, explicitly refer to SIB16 parameters as “*more static*” than dynamic. (Ex. I, Mueller Decl. [WCDMA (UMTS) Deployment Handbook] at 118.)²⁴

Apple would not oppose construing “dynamic configurations” so that they *can* include SIB16 parameters when they are provided “dynamically, i.e., at or near the time of handover.” (‘959 patent, 1:56-57.) Indeed, Core Wireless concedes that providing the configurations “at or near the time of handover” is an “attribute of dynamic configurations.” (P.Br. at 23.) However, there is no basis to construe the term so that “dynamic configurations” *necessarily* include SIB16 parameters regardless of how those configurations are used. This is particularly true given that the standards body rejected the ‘959 inventors’ proposal, resulting in a different use of SIB16 in the current standard than the use described in the ‘959 patent.

B. Claim Term 10: “Means (56) for receiving . . . “

The parties agree regarding the function of this term but disagree on whether the antenna (element 52) is part of the structure.²⁵ The claim language clearly refers to “[m]eans (56) for receiving,” and as Figure 5 makes clear, the antenna is *not* included in element 56. (‘959 patent, 18:42, Fig. 5.) The structure accordingly should not be limited to one with an antenna.

²⁴ The WCDMA (UMTS) Deployment Handbook is intended to “gather[] and distill[]” information from a range of sources, including the 3GPP standard, into a “readable and coherent form.” (Ex. J, Mueller Decl. [WCDMA for UMTS] at Foreword, Preface.) Section 4.1.1 describes the broadcast of system information through “System Information Blocks” (or “SIBs”), including SIBs 1 through 16. (*Id.*, 115-16.) Figure 4.2 depicts some of these SIBs with a “value tag” and others with an “expiration timer.” (*Id.*, 117.) SIB16 is shown with a “value tag.” As the text confirms, “SIBs with *more static parameters* use a *value tag* for change control”. (*Id.*, 118.) In contrast, SIBs that are “*more dynamic*” use SIB specific *timers* for change control. (*Id.*, Ex H, Mueller Decl. [WCDMA (UMTS) Deployment Handbook] at 139 (edited by named inventor Antti Toskala and confirming that SIB 16 parameters are “more static” than dynamic); Ex. I, Mueller Decl., [3GPP TS 25.331 V.3.7.0] at 55 (showing that SIB 16 includes a value tag).)

²⁵ Apple does not object to including receiver (53) and decoder (54) in the structure for this claim.

C. Claim Term 11: “Means (55), responsive to the error check of the broadcast control signal, for either reading any dynamic configuration . . . or waiting a until a predetermined time”

The parties again agree regarding the function of this term but disagree on whether the decoder (element 54) is part of the structure. The claim language clearly refers to “[m]eans (55), responsive to the error check . . .,” and as Figure 5 makes clear, the decoder is not included in element 55. (*Id.*, 18:47, Fig. 5.) The structure accordingly should not be limited to one with a decoder. Apple’s proposed language does not “conflate” the function and the structure. Rather, Apple’s proposal simply explains how the “controller/timer (55)” performs the agreed function.

VI. U.S. Patent No. 6,674,860

The ‘860 patent describes a system for managing a service by transmitting encrypted data to multiple devices at the same time, and providing the decryption keys needed to make sense of the data only to devices that request them. (‘860 patent, 3:43-47; 3:56-60.) This allows the network to track which of the devices are using the data and to charge them for it. (*Id.*, 4:16-21.) The keys are requested and transferred in connection with “location update” requests. (*Id.*, 6:64-7:9.) Although the specification states that the service data and decryption keys can be processed in a control unit or intelligent module, the only structure that the patent discloses for decrypting the data is an encryption block in a device’s “intelligent module SIM.” (*Id.*, 8:59-61.)

A. Claim Terms 4-8: Components of “Intelligent Module SIM”

Terms 4-8 are means-plus-function terms. The parties agree that the corresponding structure includes components—a “bus adapter DATA-I/O” (Terms 4, 6a, 6b, 7) and an “encryption block” (Terms 5a, 5b)—in some kind of intelligent module. But Core Wireless wrongly asserts that these structures can be components in any kind of intelligent module, whereas Apple’s construction reflects the only components disclosed in the specification—components that are part of an “intelligent module *SIM*.”

The patent discloses only a *SIM* “bus adapter DATA/IO” and a *SIM* “encryption block”—not a bus adapter or encryption block of any other intelligent module. The patent

mentions a “bus adapter DATA-I/O” just once, and defines it as the structure that “adapts the mobile station interface ... of the intelligent module *SIM* to the internal bus of the intelligent module *SIM*.” (*Id.*, 8:56-58.) An “encryption block” is also disclosed just once, expressly as part of a “*SIM* module.” (*Id.*, 8:59.) Although the patent makes a few references to a generic “intelligent module,” none disclose a “bus adapter DATA I/O” or “encryption block” within it.

Core Wireless does not dispute that the bus-adapter and encryption-block structures in the embodiments are part of an intelligent module SIM. Rather, it argues that “claim terms are not limited to their preferred embodiment.” (P.Br. at 25.) But these are *means-plus-function* terms; they *must be* limited to the specific disclosed embodiments. Here, that is the bus-adapter and encryption-block components of an intelligent module SIM.

The Court accordingly should adopt Apple’s construction. In fact, Core Wireless itself agreed with it, until it changed its mind late in the evening of the last possible day. (*See* Ex. K, Mueller Decl. [June 21, 2011 email from Mr. Allison to Ms. Saxton].)

B. Claim Terms 4, 6-8: “Logical Block Embodiments”²⁶

A second dispute for claims 12-15 is whether the following “logical blocks” can be corresponding structure for means-plus-function terms 4 and 6-8:

CALCULATION
OF LOCATION
COORDINATES

(Term 8)

RECEPTION OF
DECRYPTION
KEY

(Terms 4, 6a, 6b, 7)

RECEPTION OF
DECRYPTION
KEY

(Terms 4, 6a, 6b, 7)

These are “black boxes” that, at most, restate the functions of the means-plus-function limitations. They represent functions to be performed, rather than structure to perform them, and thus cannot constitute corresponding structure. *See, e.g., Blackboard, Inc. v. Desire2Learn, Inc.*, 574 F.3d 1371, 1383 (Fed. Cir. 2009) (“[A] black box that performs a recited function” is

²⁶ Term 2 from Claim 9 raises the identical issue. Core Wireless omits this term, but the result should be the same.

insufficient corresponding structure). Indeed, if the Court were to construe these black boxes as corresponding structure, the claims would be indefinite. *Id.* at 1385.

C. Claim Term 2: “Means for Decrypting ...”

Claim 9 is directed to an entire “mobile station.” The parties dispute whether the corresponding structure for means-plus-function Term 2 is an “encryption block of an intelligent module SIM” (Apple), or any “control unit” or “intelligent module” (Core Wireless).

Once again, the *only* structure that the specification describes for decrypting data is the encryption block of the “intelligent module SIM.” (*Id.*, 8:59-61 (“the SIM module comprises an encryption block for encrypting and decrypting ... data.”).) Core Wireless contends that the structure also should include not only a generic “intelligent module” but also any “control unit.” But as Core Wireless admits, the only “control unit” described in the specification is a general-purpose processor (P.Br. at 26 & n.43), which “controls the other blocks in the mobile station” in accordance with “a program.” (*Id.*, 8:43-47.) And the patent discloses *no algorithm* by which the control unit could perform decryption. A general-purpose processor without an algorithm *cannot* constitute corresponding structure for a means-plus-function term. *WMS Gaming*, 184 F.3d at 1349 (“In a means-plus-function claim in which the disclosed structure is a computer ... programmed to carry out an algorithm, the disclosed structure is not the general purpose computer, but rather the special purpose computer programmed to perform the disclosed algorithm.”). If the Court were to construe the “control unit” without an algorithm as corresponding structure, as Core Wireless proposes, the claim would be indefinite.

D. Claim Terms 1, 3: “Means for Receiving ...”

The remaining disputes for claim 9 concern the corresponding structure for terms 1 and 3. *First*, the specification discloses five “reception blocks” in a phone: an antenna, a duplex filter, an RF receiver, a detection modulator, and a decoding block. (‘860 patent, 8:12-21; 8:28-30.) Core Wireless’s construction omits the detection modulator and decoding block, but these are necessary structure. The functions at issue require “receiving ... *information*” (Term 1) and

“receiving ... **decryption key[s]**.” (Term 3) The first three reception blocks can be used to receive a “**signal**” (*Id.*, 8:15-19), but the “signal” must be demodulated and decoded to turn it into the specified “information” or “keys.” (*Id.*, 8:19-22.)

Second, the parties dispute whether the “control unit” is corresponding structure (Apple) or not (Core Wireless). The specification confirms that “the control unit controls the ... reception blocks in accordance with a program stored in the control unit/memory.” (*Id.*, 8:28-30.) Without the control unit, the reception blocks could not “receive” anything. Moreover, the functions require “receiving on a broadcast channel” (Term 1) and “receiving ... on a channel assigned to said mobile station in connection with a location update procedure” (Term 3). The antennas and filters are simple hardware elements that receive a signal and turn it into a stream of bits; they are not capable of receiving the bits on particular “channels” or of performing any functions “in connection with a location update procedure.” The control unit accordingly is part of the corresponding structure. The specification ties the algorithms Figure 6 (for term 1)²⁷ and Figures 4 and 8 (for term 3) to the relevant functions, as summarized below:²⁸

Term	Function	Specification cites
1	“receiving on a broadcast channel information related to a service.”	7:26-28 (“FIG. 6 shows ... the transfer of location <i>information</i> to a mobile station in a <i>broadcast message</i> .”)
3	“receiving ... decryption key[s] ... on a channel assigned to said mobile	6:66-7:1 (“FIG. 4 illustrates a method according to the invention for <i>transferring a decryption key to the mobile</i>

²⁷ Core Wireless’s argument that Fig. 6 cannot be the necessary algorithm because it “includes actions performed by the network,” rather than the mobile station, is flawed. (P.Br. at 26.) Fig. 6 shows precisely how the mobile station receives information on a broadcast channel—namely, by extracting it from an SMSCB_Msg message. (‘860 patent, Fig. 6.)

²⁸ Core Wireless suggests that, even if the control unit is corresponding structure, no algorithm is required, citing *Sipco, LLC v. Abb, Inc.*, No. 6:11-CV-0048, 2012 U.S. Dist. LEXIS 106659, 90-91 (E.D. Tex. July 30, 2012). In that case, however, Judge Love found that no algorithm was needed because the corresponding structure did **not** include a general purpose computer. *Id.* at 91. Here it does, and an algorithm is needed.

Term	Function	Specification cites
	station in connection with a location update procedure”	<i>station in connection with periodic location update.”)</i> 7:57-60 (“FIG. 8 shows a situation in which a <i>decryption key [] transferred to a mobile station in connection with location update</i> ”)

E. Claim Term 8: “Means for Calculating ...”

The parties also dispute the corresponding structure for term 8. The parties’ positions on this term have been largely discussed above. (Section A and B *supra*.) The structure that performs the function is a memory and CPU of an intelligent module SIM containing a location-calculation algorithm. (*Id.*, 4:1-3 (“location information can be computed using an algorithm stored in the intelligent module”); 8:61-64; 9:27-29 (“[l]ocation algorithms can be updated simply by changing SIM cards”)). The location-calculation algorithms are disclosed at 2:23-57.

F. Claim Terms 6a-b: “Receiving...decryption key[s]...related to a location update procedure”

The final dispute for the ‘860 patent is the corresponding structure for terms 6a and 6b which recite “receiving ... decryption key[s] ... *related to a location update procedure.*” Core Wireless proposes *no* structure to give effect to the phrase “related to a location update procedure.” Apple contends that it must be given meaning. The only way that the patent discloses for receiving such keys related to a location update procedure” is to extract them from a location “update acknowledgement” message. (*Id.*, 8:8-11 (“[T]he [location update] acknowledge contains the current decryption key for the broadcast location information and possibly a decryption key for the next period.”); Figs. 4, 8 (showing decryption keys received in location update acknowledge messages).) A SIM card CPU is the structure that performs this reception. (*Id.*, 8:49-51.)

VII. U.S. Patent No. 7,804,850

The ‘850 patent claims a method of reducing congestion on networks using autonomous (non-scheduled) transmissions. (‘850 patent, 3:56-60.) A “Virtual Transmission Time Interval”

defines the minimum amount of time between transmissions. (*Id.*, 4:35-42.) By imposing a larger minimum amount of time between transmissions, the data rate is decreased, decreasing network congestion. (*Id.*, 4:1-3.)

A. Claim Term 25: “Predetermined Period”

Apple’s Proposed Construction	Core Wireless’s Proposed Construction
A time interval, the length of which is determined in advance	Plain and ordinary meaning/no construction necessary

The primary dispute is whether “predetermined period” should be construed consistent with its plain meaning and its use in the specification (Apple) or whether no construction is necessary, leaving the phrase ambiguous (Core Wireless).

Apple’s proposed construction, that “predetermined period” means “a time interval, the length of which is determined in advance,” gives the term its plain and ordinary meaning. Apple’s construction comports with the dictionary definition of the term “predetermined.” (*See* Ex. N [Am. Heritage Dict.] at 1426 (“to determine, decide, or establish in advance”); Ex. O [Oxford New Am. Dict.] at 1335 (“establish or decide in advance”).) Core Wireless claims that the term needs no construction, but has not identified any reason why Apple’s proposed construction is incorrect, nor has Core Wireless provided any indication of what the plain and ordinary meaning might be.

Contrary to Core Wireless’s assertion that the meaning of the claim term is “readily apparent,” the phrase has at least two potential ambiguities, both of which are addressed by Apple’s claim construction. (P.Br. at 28-29.)

First, Apple’s construction confirms that the “period” refers to an interval of time. All the independent claims require a data packet to be transmitted after the predetermined period has “elapsed.” Only an interval of time can “elapse.” The specification similarly confirms that the period is an interval of time. The term “predetermined” appears only once in the specification

where, consistent with Apple's construction, it describes a time interval determined before the interval begins. ('850 patent, 11:18-19 (referencing a "next predetermined subsequent time interval after the virtual TTI" as part of the preferred embodiment of the invention); Ex. L, Mueller Decl. [Response of Oct 6, 2009] at 8 (applicant citing this language as disclosing the subject matter of claim 1).)²⁹ This interpretation is also supported in the file history. For example, when attempting to distinguish a prior art publication, the applicant described the "period" of claim 1 as a "period of time." (See Ex. M, Mueller Decl. [Response of April 22, 2009] at 9.) Moreover, since the virtual TTI with which the predetermined period is "associated" is itself a time interval, the claimed "period" should also be construed as a time interval.

Second, Apple's construction eliminates the ambiguity regarding which one of several aspects of a period that could be "predetermined" by clarifying that it is the "length" of the period that must be "predetermined." The claims preclude the starting or ending points of the period from being "predetermined" because the portion of the claim containing the "predetermined period" limitation begins "for the case where" Thus, the predetermined period will be used only in cases where a condition is met. This case-by-case determination of whether and when to use the "predetermined period" is not made in advance, so neither the starting nor ending points can be "predetermined." Also, when the "for the case where" limitation is satisfied, the claims require a data packet to be transmitted "after" the predetermined period has "elapsed." Because the claims require events to occur "after" the period has "elapsed," and because the starting and ending points of the period cannot be predetermined, it is the length of the period that must be "predetermined."

²⁹ The applicant's citation reads: "Claims 46, 57, 68 and 79 are independent, each of which is amended with subject matter set forth in the application as published at US Publ. 2006/0120404 at ¶ 0021 ["In the preferred embodiment, the new parameter is a "virtual TTI" that defines the minimum time interval between subsequent new transmissions for a MAC-d flow."] and also at ¶ 0059 ["(i) if the MAC is able to empty the RLC buffer during this air interface TTI, then the MAC will check the RLC buffer at the next predetermined subsequent time interval after the virtual TTI"]." (Ex. L, Mueller Decl. [Response of Oct 6, 2009] at 8; *see also* (Ex. S, Mueller Decl. [Index of Claims].)

The single case cited by Core Wireless in support of its construction is inapplicable. In *Eon Corp IP Holdings, LLC v. Landis+Gyr Inc.*, No. 6:11-cv-00317, 2012 U.S. Dist. LEXIS 165790 (E.D. Tex. Nov. 20, 2012), defendants sought an extremely restrictive construction of the phrases “predetermined base station geographic area” and “predetermined geographic area,” which added substantial meaning outside the common definitions of the terms and which drew no support from the intrinsic record. By contrast, Apple’s construction uses the plain meaning of the terms to provide clarity to an ambiguous phrase.

VIII. Conclusion

For the foregoing reasons, the Court should adopt Apple’s proposed constructions as set out in Exhibit 1 of the Joint Claim Construction and Prehearing Statement (Docket No. 108.1).

Dated: August 22, 2013

Respectfully submitted,

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CERTIFICATE OF SERVICE

I hereby certify that all counsel of record who are deemed to have consented to electronic service are being served with a copy of this document via the Court's CM/ECF system per Local Rule CV-5(a)(3)(A).

Dated: August 22, 2013

/s/ Joseph J. Mueller

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